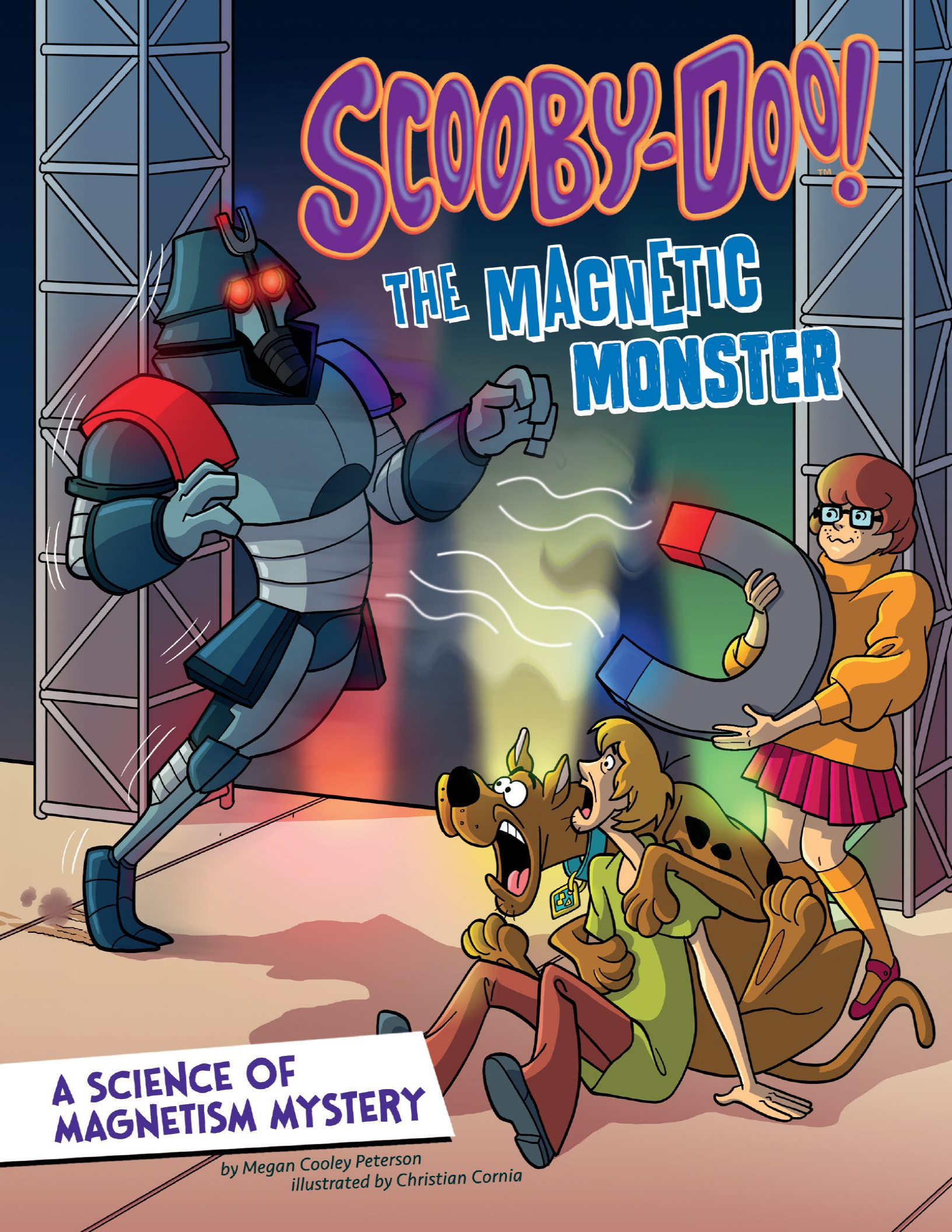
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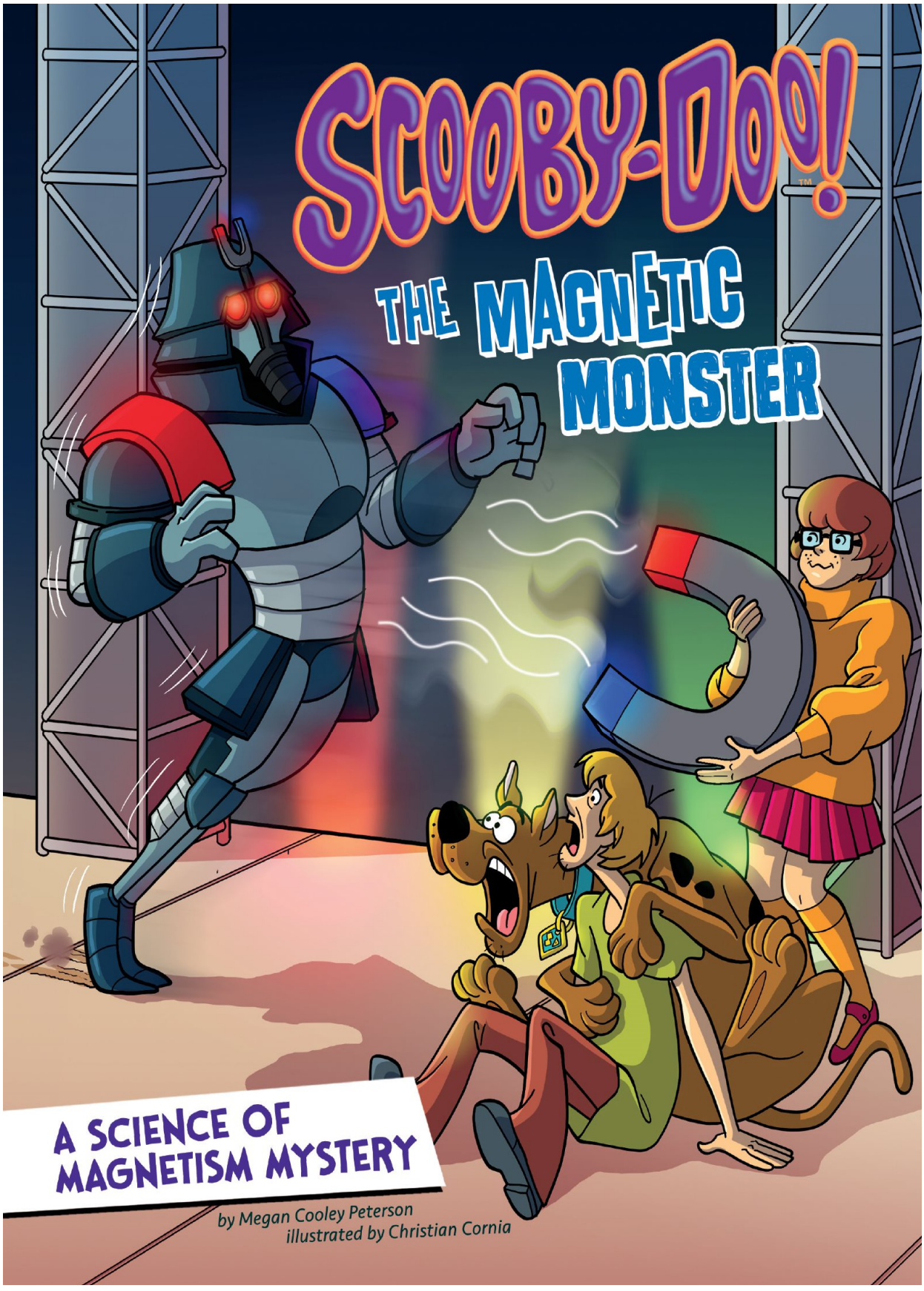
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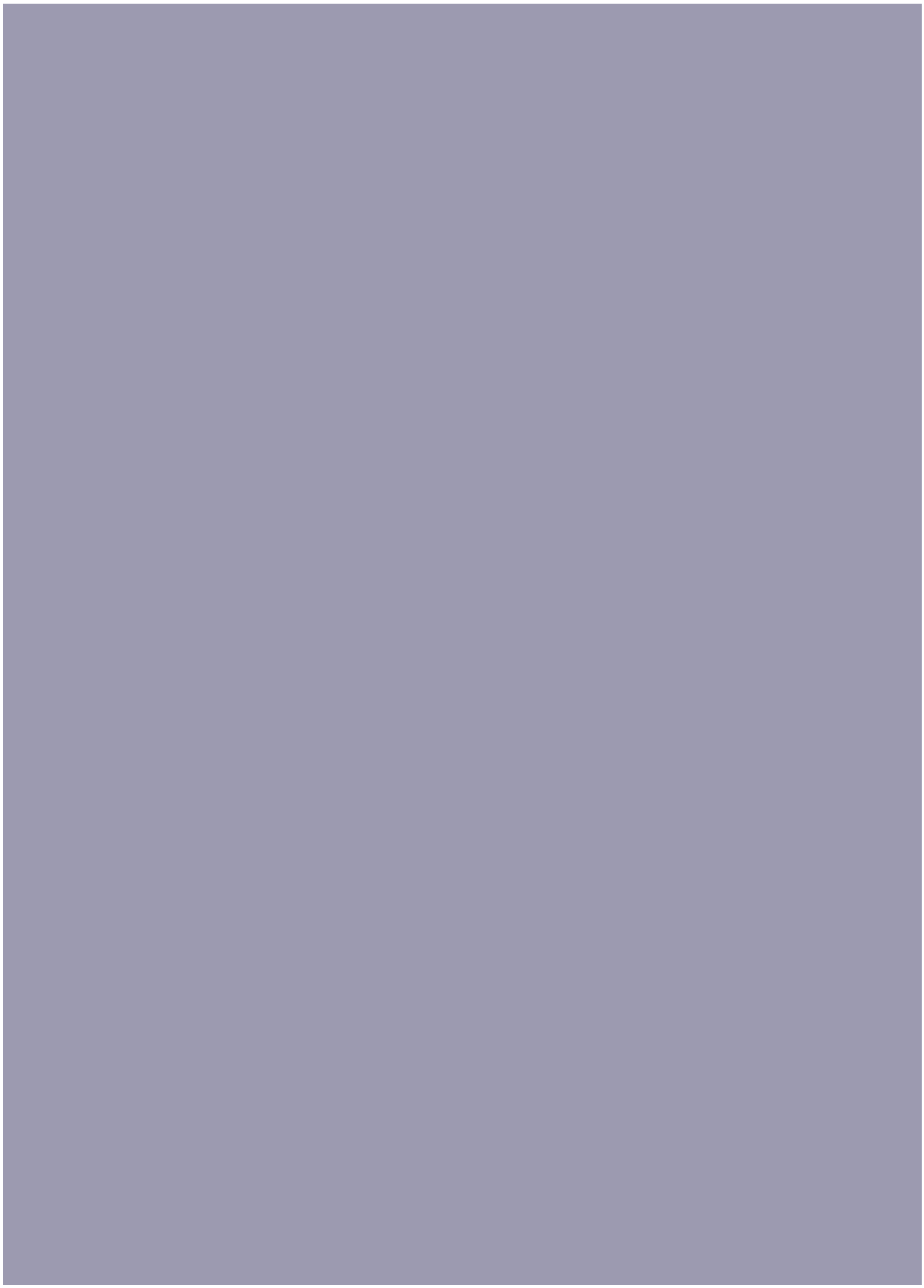

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THE MAGNETIC MONSTER
CAPSTONE PRESS
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Scooby- Doo and the gang were at a concert by their favo

"Shaggy, what are you and Scooby doing?" Daphne asked

"We're, like, using these magnets to try to find loose chan

"Roose range," agreed Scooby.

"We'll use our newfound moolah to buy some snacks," s
make us hungry."

"Of course they do," muttered Velma.

"But I think this magnet is broken," Shaggy said. "It won't

"The magnet isn't broken," Fred said. "Magnets attract ce
and steel. But they don't attract other metals, like copper

"What does copper have to do with finding coins?"
"Pennies have copper in them," explained Daphne.
are made from non- magnetic metals."

Shaggy scratched his head. "So, like, why does a magnet

"First you must understand how magnetism works," Velm
an invisible force, just like gravity. It can move a piece of
Magnetism starts inside atoms."

"What do a bunch of guys named Adam have to do with
wondered.

"**A-T-O-M**, not A- D- A- M," Velma said. "Everything in the
or groups of atoms called molecules."

"Tiny charged spinning particles called electrons orbit aro
Daphne explained. "The motion of charged particles mak
in atoms have tiny magnetic fields."

"In most materials, like copper, the magnetic fields cancel
said. "This means there is no magnetic force."

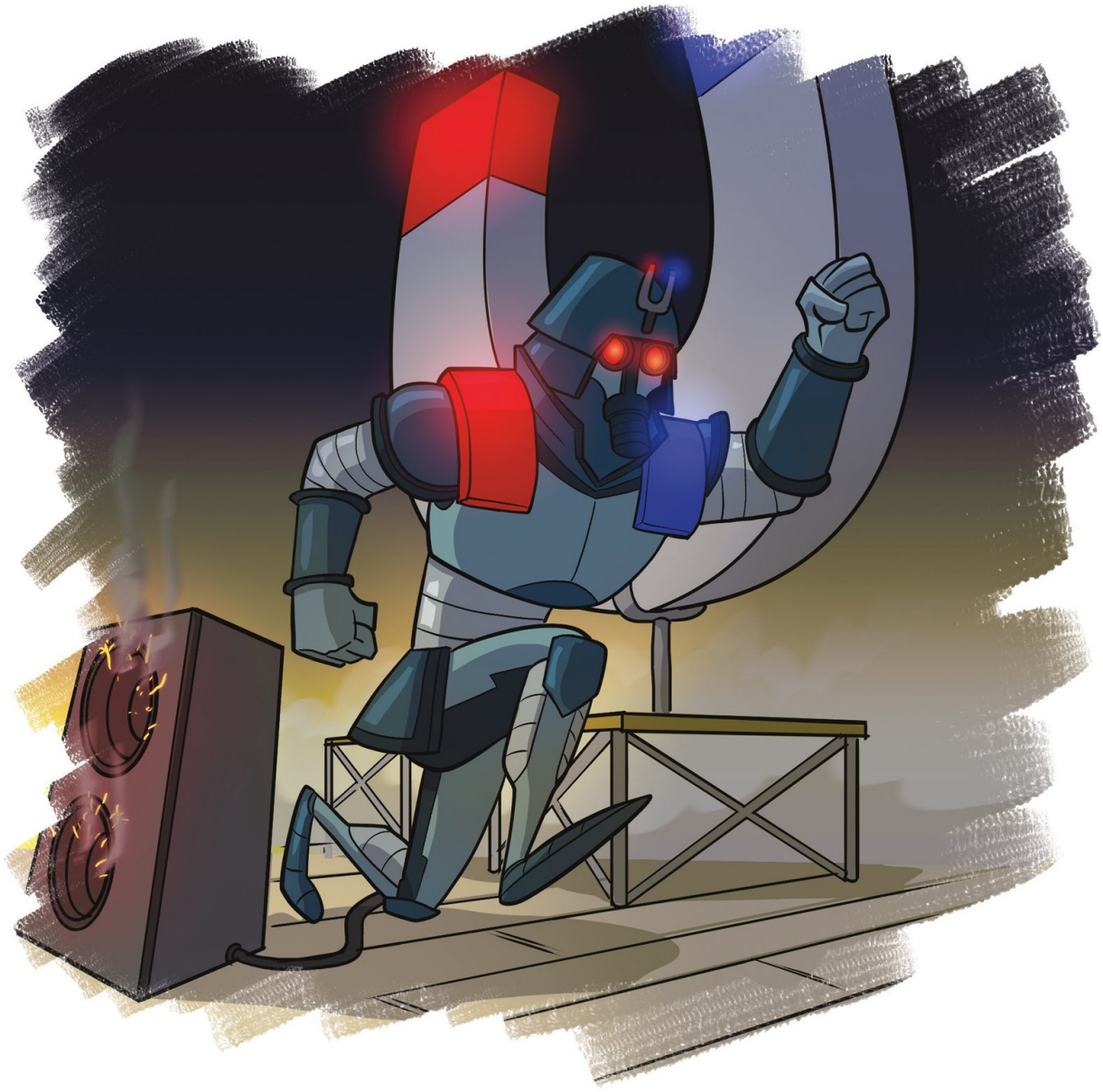
"But in iron, the magnetic fields don't completely
Fred said. "Iron's atoms, therefore, are magnetized
are made of iron."

"Riron!" shouted Scooby.

"Yes, Scooby— iron," Daphne said.

"Like, I think he means that we're in the magnetic
creature!" Shaggy cried.

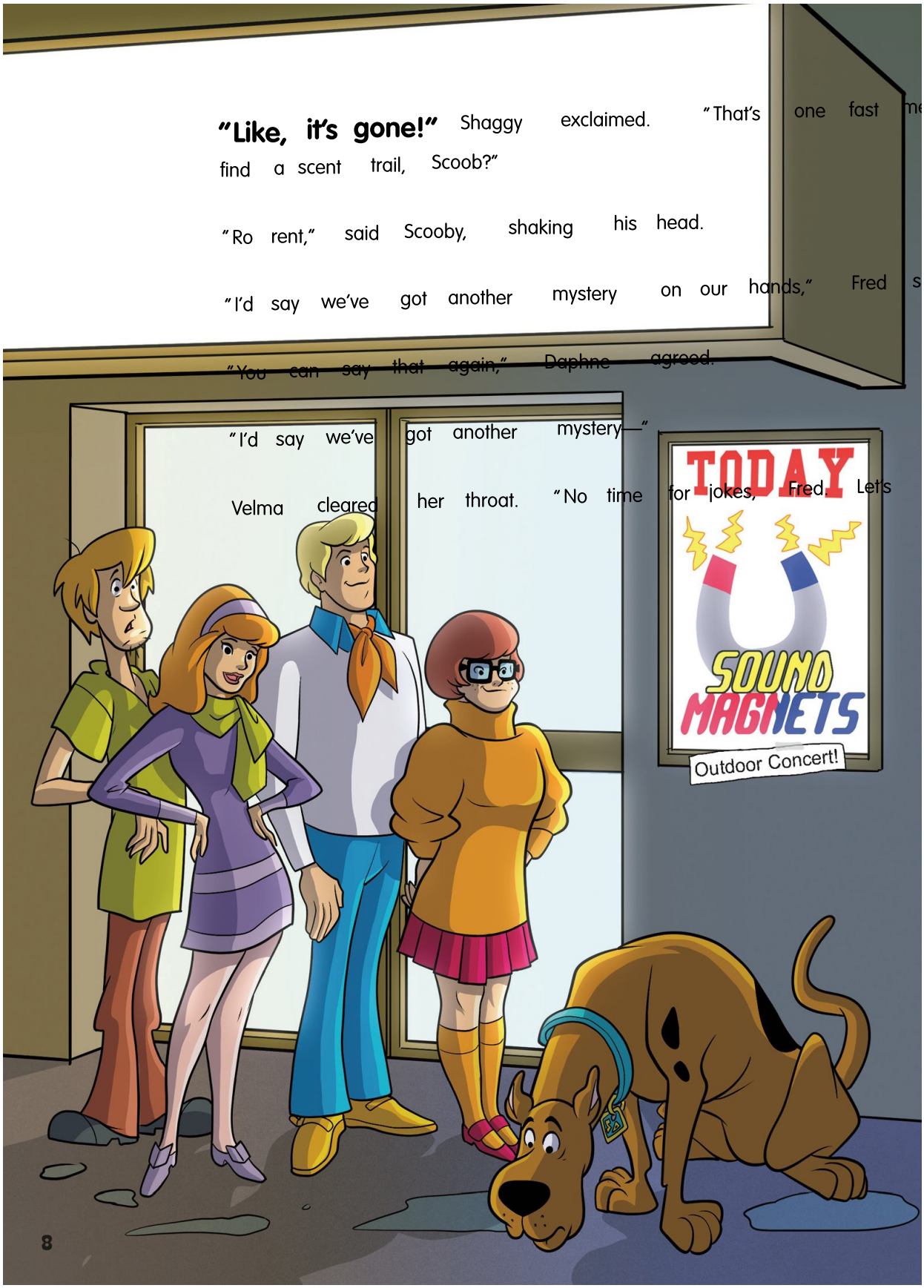
Shaggy covered his ears. "The band sounds, like, a little out o
"A little?" asked Velma. "All the speakers are going haywire!"
"That creature is destroying everything on stage," Fred said.



"Look! It's getting away!" Daphne shout

"Come on, gang," said Fred. "Let's follow th

"Here we go again," Shaggy moaned.


"Like, it's gone!" Shaggy exclaimed. "That's one fast
find a scent trail, Scoob?"
"Ro rent," said Scooby, shaking his head.
"I'd say we've got another mystery on our hands," Fred s
"You can say that again," Daphne agreed.
"I'd say we've got another mystery—"
Velma cleared her throat. "No time for jokes, Fred. Let's
TODAY
SOUND MAGNETS
Outdoor Concert!
8

"I hope this investigation doesn't take too long," moaned Shag
"My coupon for free French fries expires at midnight."
Daphne knocked on the door. "No one's answering," she said.
"Maybe they went home," Shaggy said. "I say we do the same.
Suddenly the door creaked open.
"Zoinks! It's the heavy metal maniac!" cried Shaggy.
ARTIST
ENTRAN

"Like, whew," said Shaggy. "We totally thought you were that meta
"I'm Felix Fox, lead singer of The Sound Magnets. I was just trying for our next show."
Fred stuck out his hand and introduced the gang. "My friends and mysteries," he said.
"We can help figure out who, or what, destroyed your speakers a concert," added Daphne.
"That would be great," Felix said. "Please, come inside."
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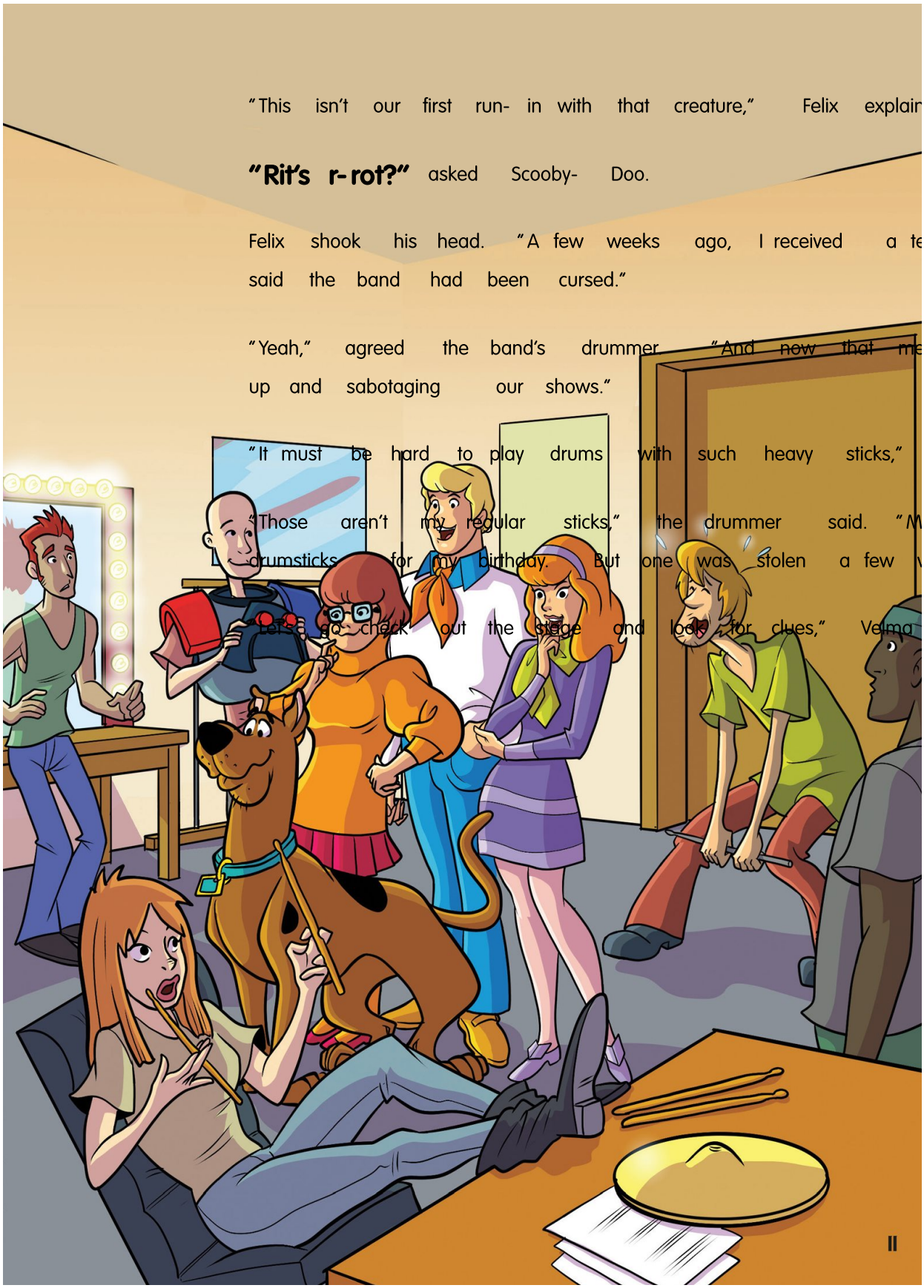


"This isn't our first run- in with that creature," Felix explain

"Rit's r- rot?" asked Scooby- Doo.

Felix shook his head. "A few weeks ago, I received a te
said the band had been cursed."

"Yeah," agreed the band's drummer. "And now that me
up and sabotaging our shows."

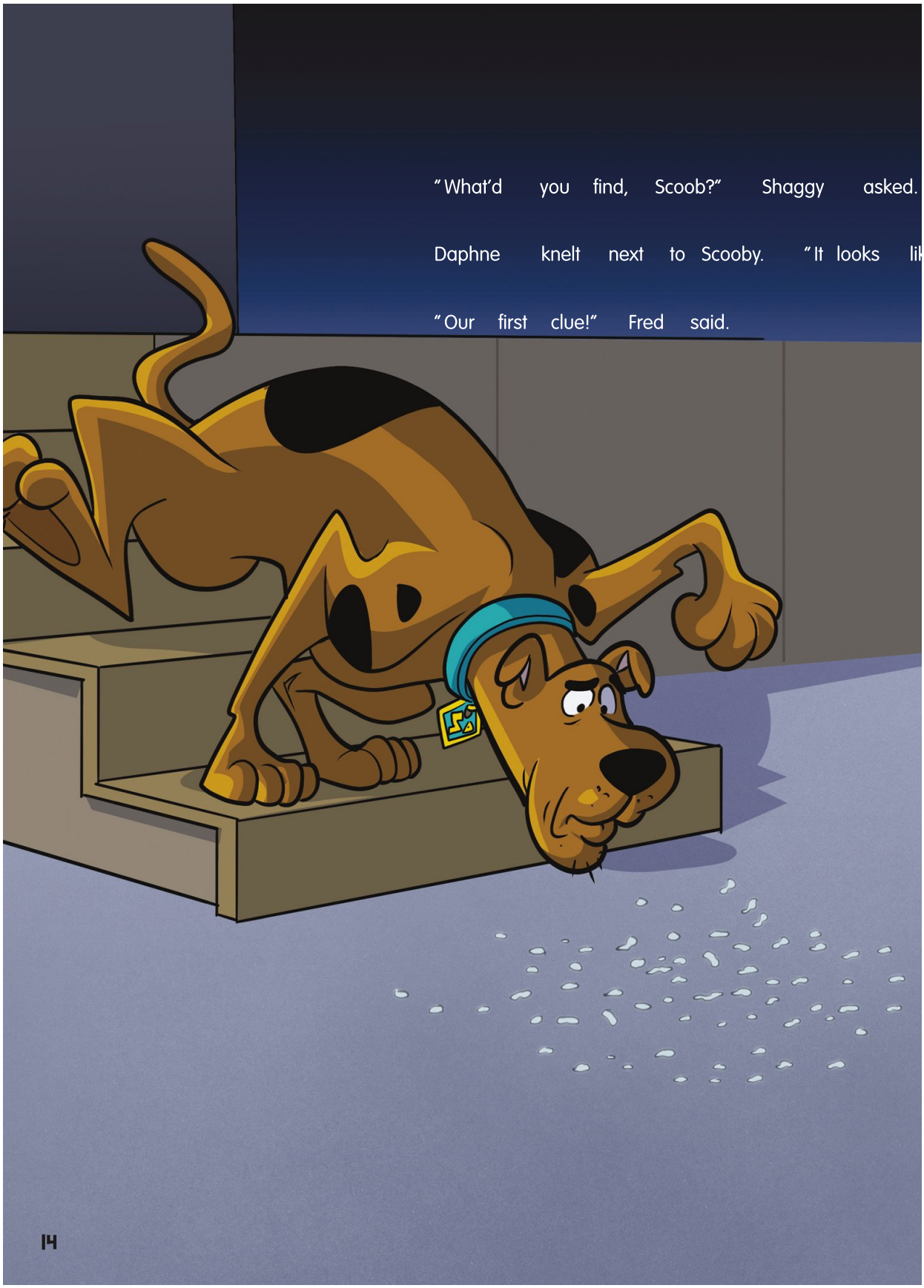
"It must be hard to play drums with such heavy sticks,"

"Those aren't my regular sticks," the drummer said. "M
drumsticks for my birthday. But one was stolen a few

Let's go check out the stage and look for clues," Velma

"The speakers went haywire when that cr
"Why would that be?" Shaggy asked.
"Magnets!" exclaimed Fred. "Speakers
"Fred's right," Velma agreed. "There are n
As electricity passes into the speaker, the
"The vibrating magnets n
Daphne explained. "The
"I'm guessing the iron cre
destroy the speakers," Ve
12

"Come on, gang," said Fred. "Let's what else we can find."


"What'd you find, Scoob?" Shaggy asked.
Daphne knelt next to Scooby. "It looks lik
"Our first clue!" Fred said.

"Watch out, Scoob!" Shaggy

"Look at that," Fred observed. "

"They're definitely not pencil sha
say they're iron shavings."

"Those iron shavings must really

"You're right," Daphne said. "Ma
field is the area where there is

"A magnet's two ends are calle
field flows from the north pole

"And a magnet's magnetic forc

"Look, Scoob! Our magnets don't like each other!" Shaggy said.
"That's because a magnet's like poles repel each other," Velma ex
opposite poles attract."
"Just like me and hotdogs!" Shaggy exclaimed. "So does that have
with those magnetic fields?"
"Exactly!" said Velma. "Remember that the magnetic field flows fro
When you place two like poles together, the magnetic fields repel
"But when you place opposite poles together, they attract," Fred a
because their magnetic fields flow in the same direction."
S
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16

FAC

If y
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in h

"Any piece of iron can be made into a magnet," Daphne said. She rubbed Scooby's bar magnet along the iron drumstick.

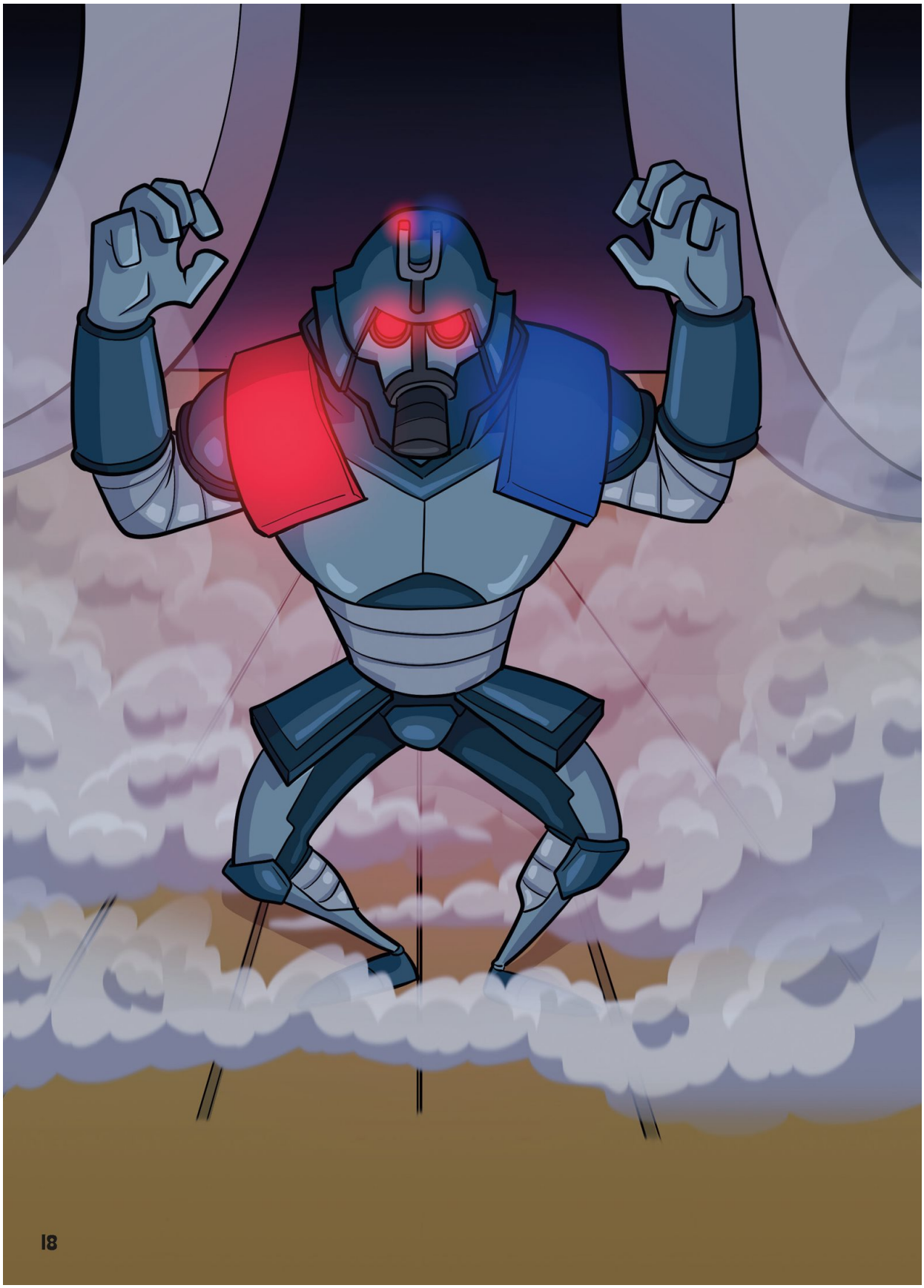
"Ragic!" Scooby exclaimed.

"Actually, it's all because of domains," Velma said. "Inside each magnet are millions of micromagnets called domains. A magnet's domains are lined up.

"The domains in a regular piece of iron aren't lined up yet," said Fred. "Rubbing a magnet across the iron causes its domains to line up. The iron then becomes a magnet."

"We

Shaggy

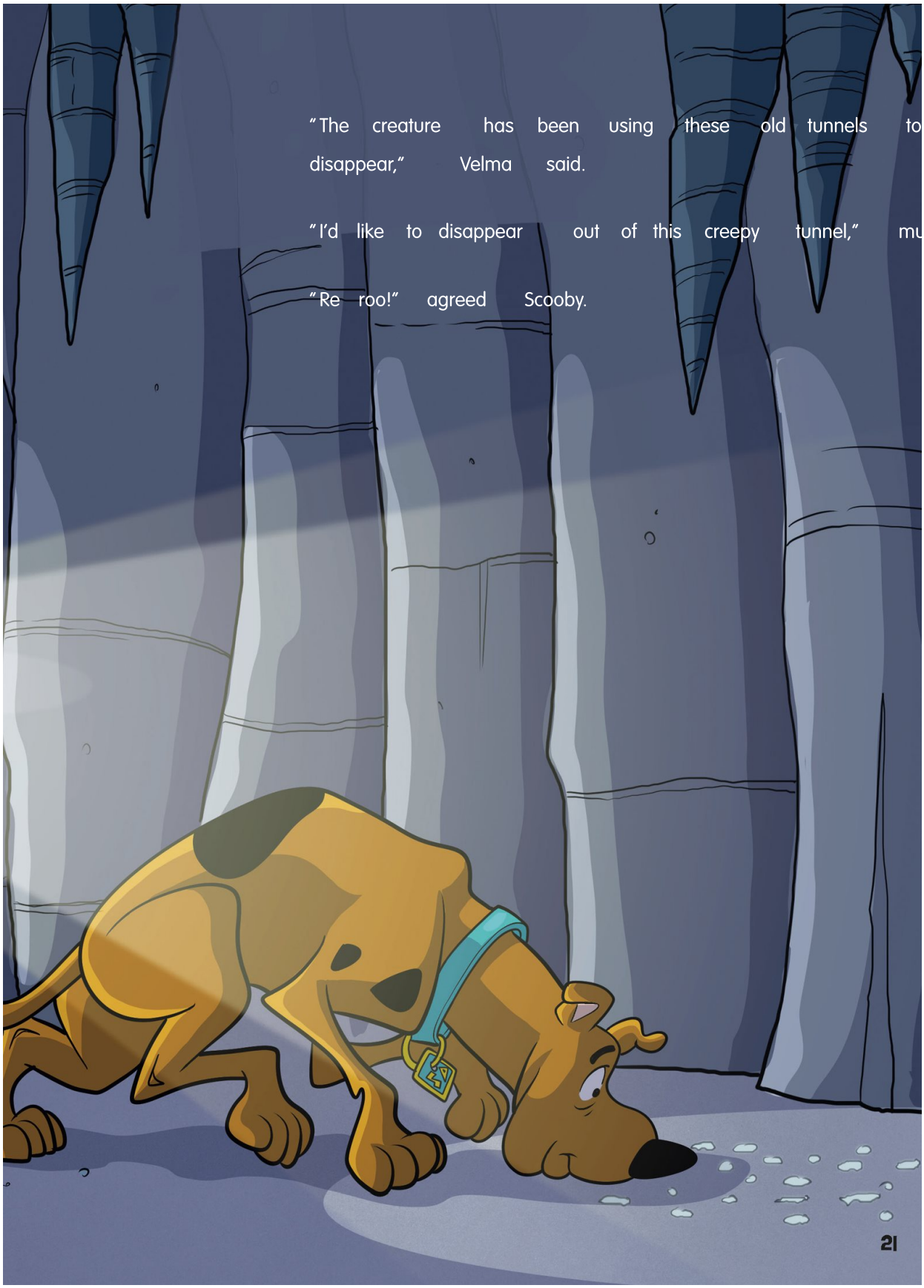


"We've got company!" Shaggy shouted. **"And it doe**

"Rot rappy," repeated Scooby, shaking his head.

"Look out below!" Velma cried. "The

"Like, where are we?" Shaggy asked.
"We're in a some sort of tunnel below the concert hall," Velm
"What'd you find, Scoob?" asked Shaggy.
"Rore ravings," said Scooby.
Velma picked up some shavings. "Scooby's right. It's more
Things are starting to make sense."
"Not to me!" Shaggy said.


"The creature has been using these old tunnels to disappear," Velma said.
"I'd like to disappear out of this creepy tunnel," mu
"Re roo!" agreed Scooby.

"Oh, great!" cried Shaggy. "How do we know which way to

"Actually, we will," Velma said, "thanks to my compass. I neve

Shaggy looked at the compass. "How is knowing what time

"A compass doesn't tell time," Velma explained. "It uses magn

"Is the magnet like a map?" Shaggy joked.

"Boy, are we glad to see you," Shaggy said to Fred and
together like magnets."

"We found more iron shavings in a secret underground

"And we found a trail of iron shavings leading to a junkya

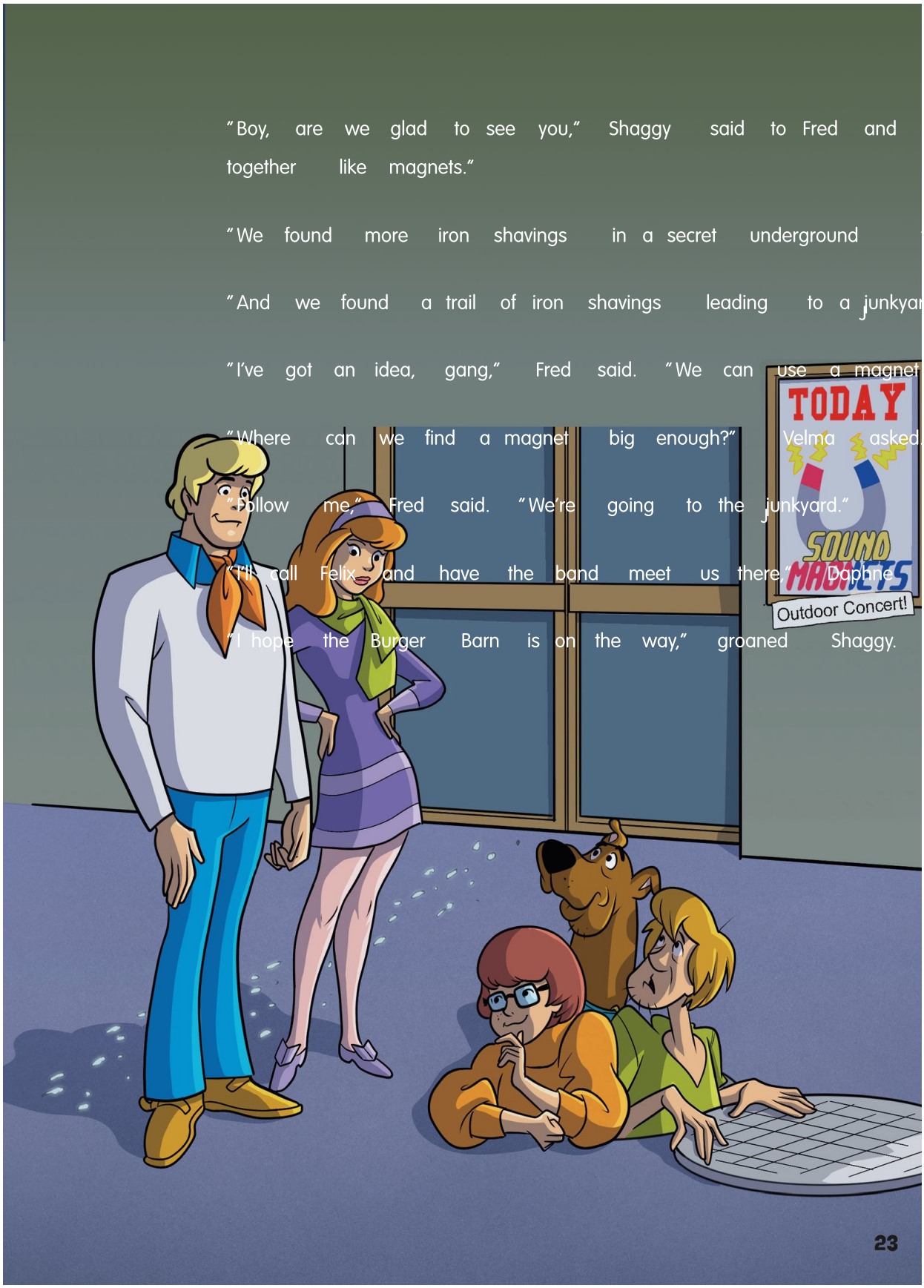
"I've got an idea, gang," Fred said. "We can use a magnet

"Where can we find a magnet big enough?" Velma asked.

"Follow me," Fred said. "We're going to the junkyard."

"I'll call Felix and have the band meet us there," Daphne

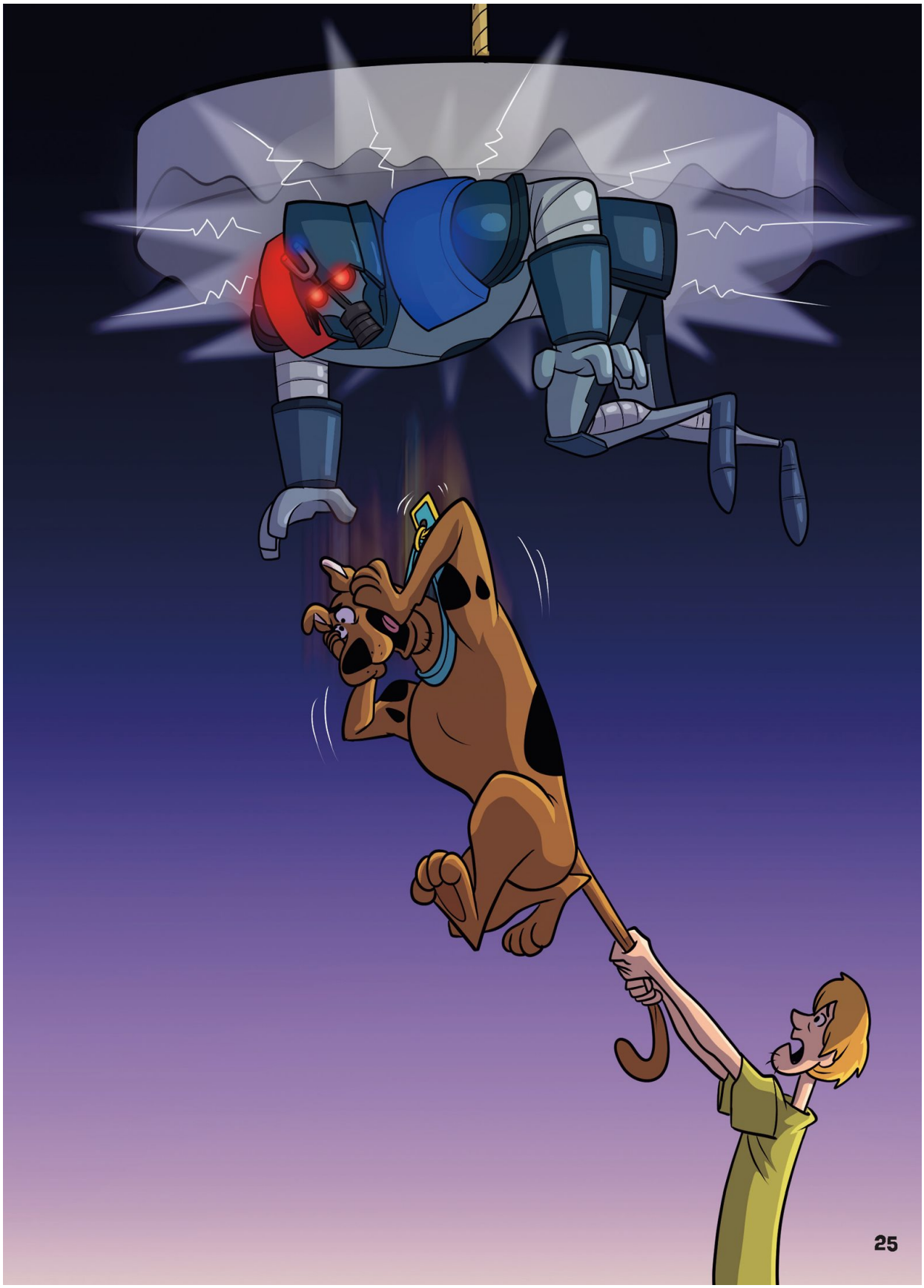
"I hope the Burger Barn is on the way," groaned Shaggy.



"We'll use this huge electromagnet to catch the creature,"
"Like, what's an electromagnet?" Shaggy asked.
"An electromagnet combines magnetism and electricity,"
electricity, electromagnets lose their magnetism."
"Velma's right," said Daphne. "Electricity flowing through
field. When you coil that wire around iron, the magnetic
"Strong enough to lift the metal monster?" Shaggy asked
"Turn on the power and we'll find out!" Fred shouted.

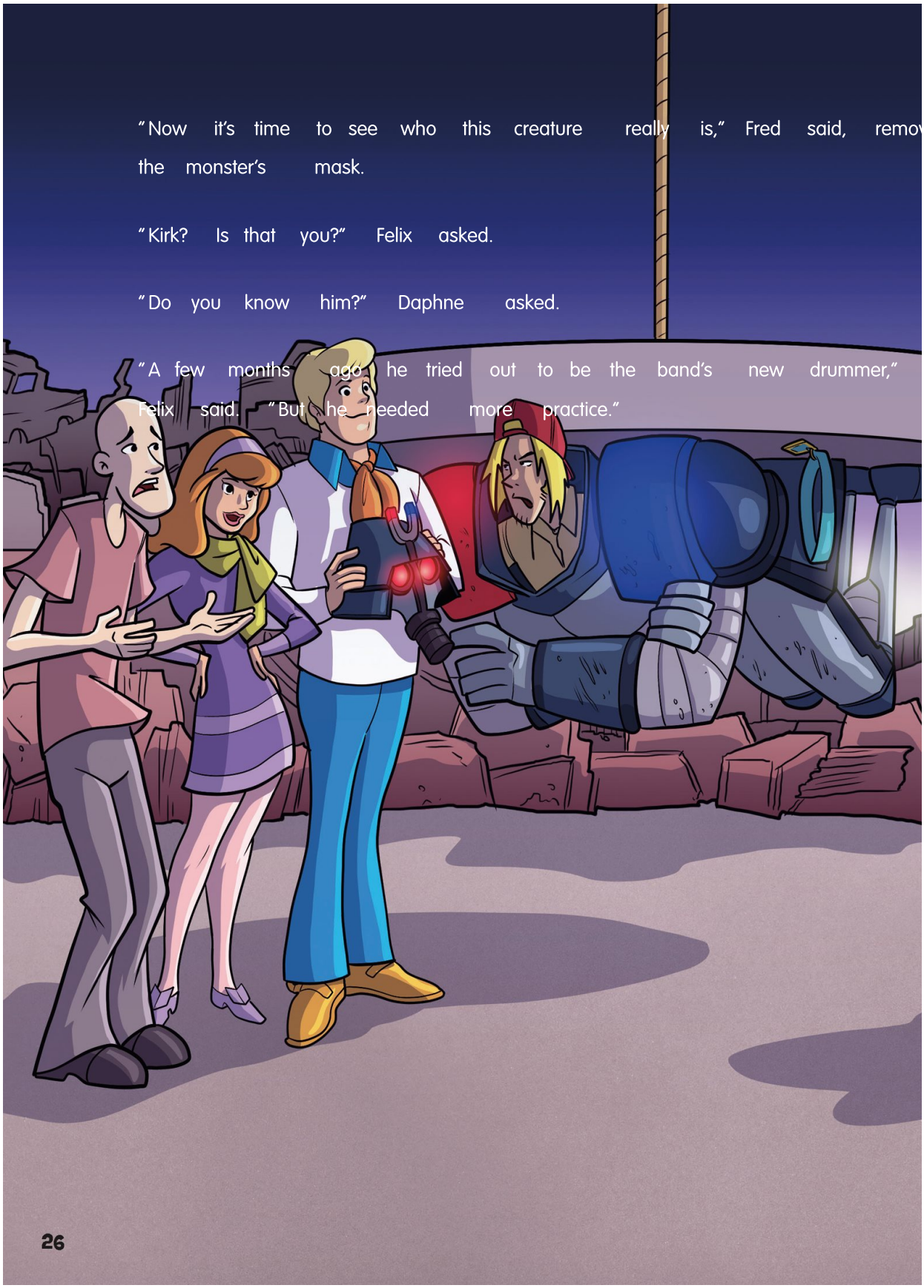
FACT FIL

In 1820 Danish
found that a c
wire created a
discovered the



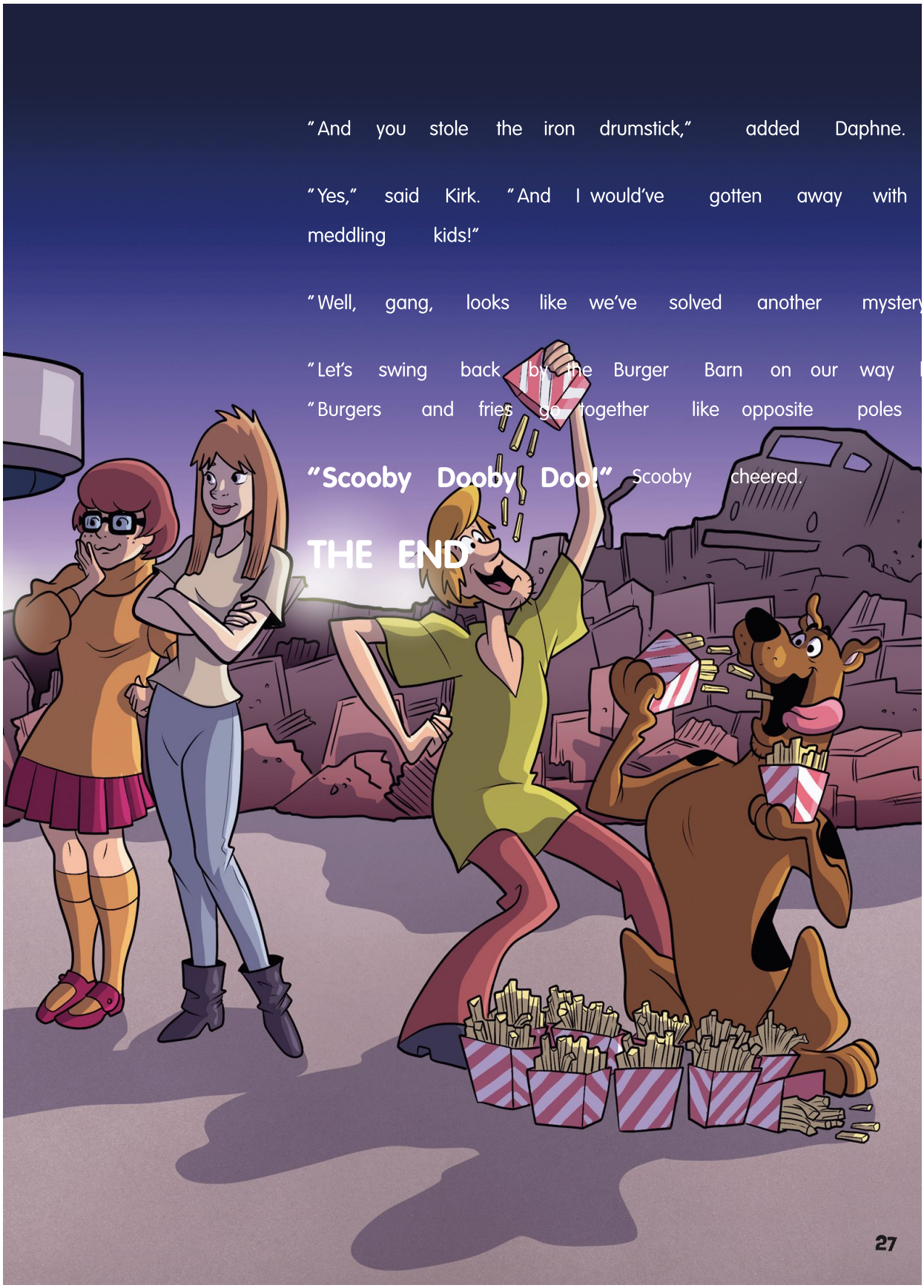
"Jinkies!" cried Velma. "Our monster magnet wo

"A little too well," said Shaggy. **"It's getting Scoo**


"Now it's time to see who this creature really is," Fred said, remov
the monster's mask.
"Kirk? Is that you?" Felix asked.
"Do you know him?" Daphne asked.
"A few months ago he tried out to be the band's new drummer,"
Felix said. "But he needed more practice."

"Is this true?" Velma asked.

Kirk nodded. "If I couldn't be in the band, So I used powerful magnets and water to



"And you stole the iron drumstick," added Daphne.

"Yes," said Kirk. "And I would've gotten away with meddling kids!"

"Well, gang, looks like we've solved another mystery

"Let's swing back by the Burger Barn on our way

"Burgers and fries go together like opposite poles

"Scooby Dooby Doo!" Scooby cheered.

THE END

GLOSSARY

atom (AT-uhm)—the smallest particle of an e

domain (doh-MAYN)—a group of magnetic

electromagnet (e-lek-troh-MAG-nit)—a temp
when an electric current flows through a cor

electron (e-LEK-tron)—a tiny particle in an at
the nucleus

force (FORS)—any action that changes the m

gravity (GRAV-uh-tee)—a force that pulls obj
pulls objects down toward the center of Eart

magnetic (mag-NET-ik)—having the attractiv

magnetic field (mag-NET-ik FEELD)—the area
has the power to attract magnetic metals

molecule (MOL-uh-kyool)—the atoms makin
of a substance; H_2O is a molecule of water

nucleus (NOO-klee-uhss)—the center of an
up of neutrons and protons

pole (POHL)—one of the two ends of a mag
the top or bottom part of a planet

repel (ri-PEL)—to push apart; like poles of m

SCIENCE AND ENGINEERING

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Developing and using

3.

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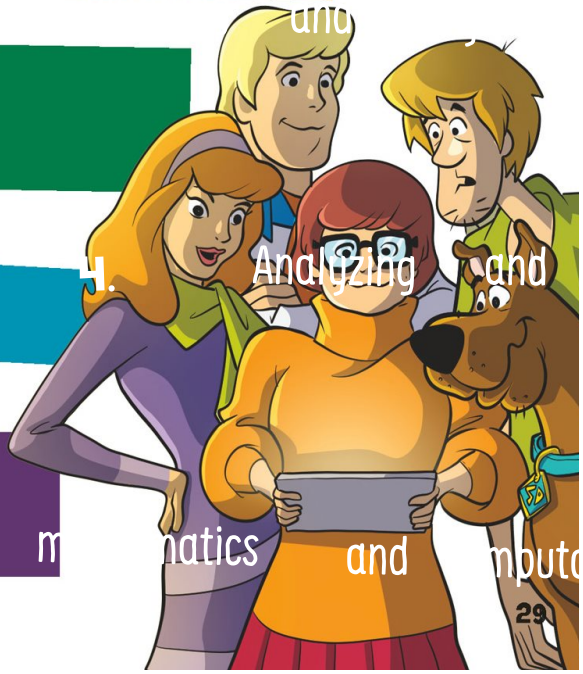
5. Using m natics and mputa



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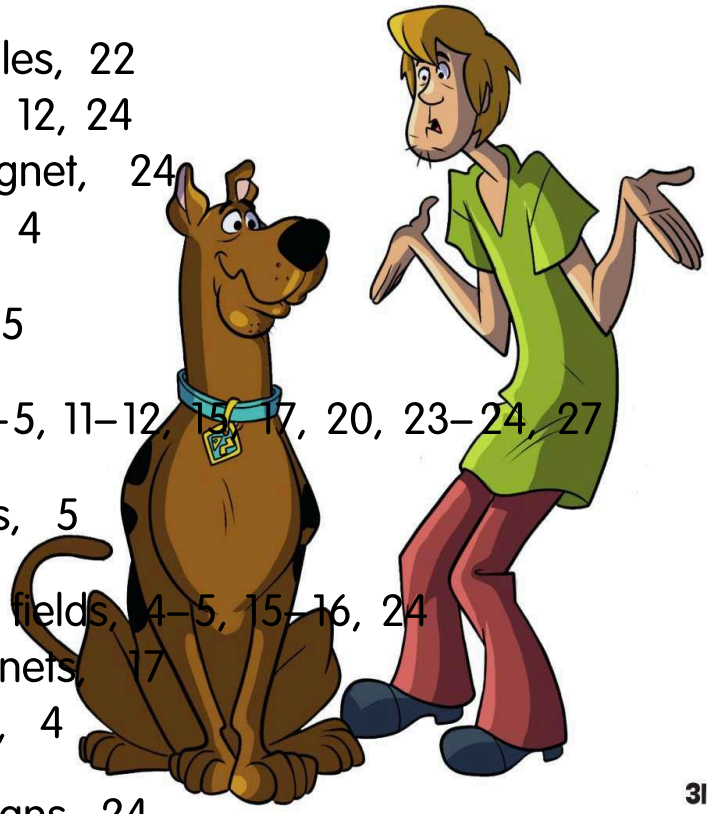

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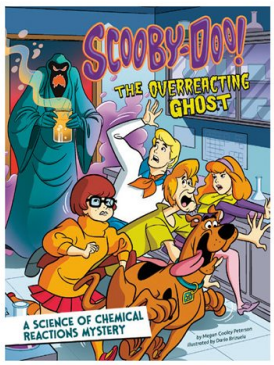
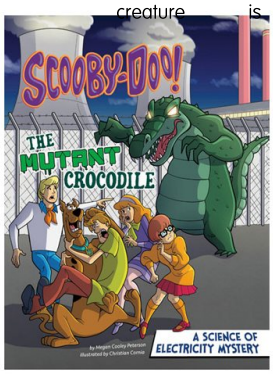
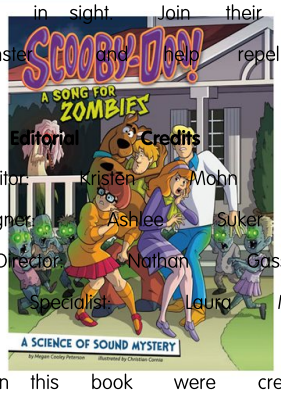
Summary: A heavy metal monster at a heavy metal
and the gang find themselves drawn to a magnetic mys
creature is destroying everything in sight. Join their sci
magnetizing monster and help repel







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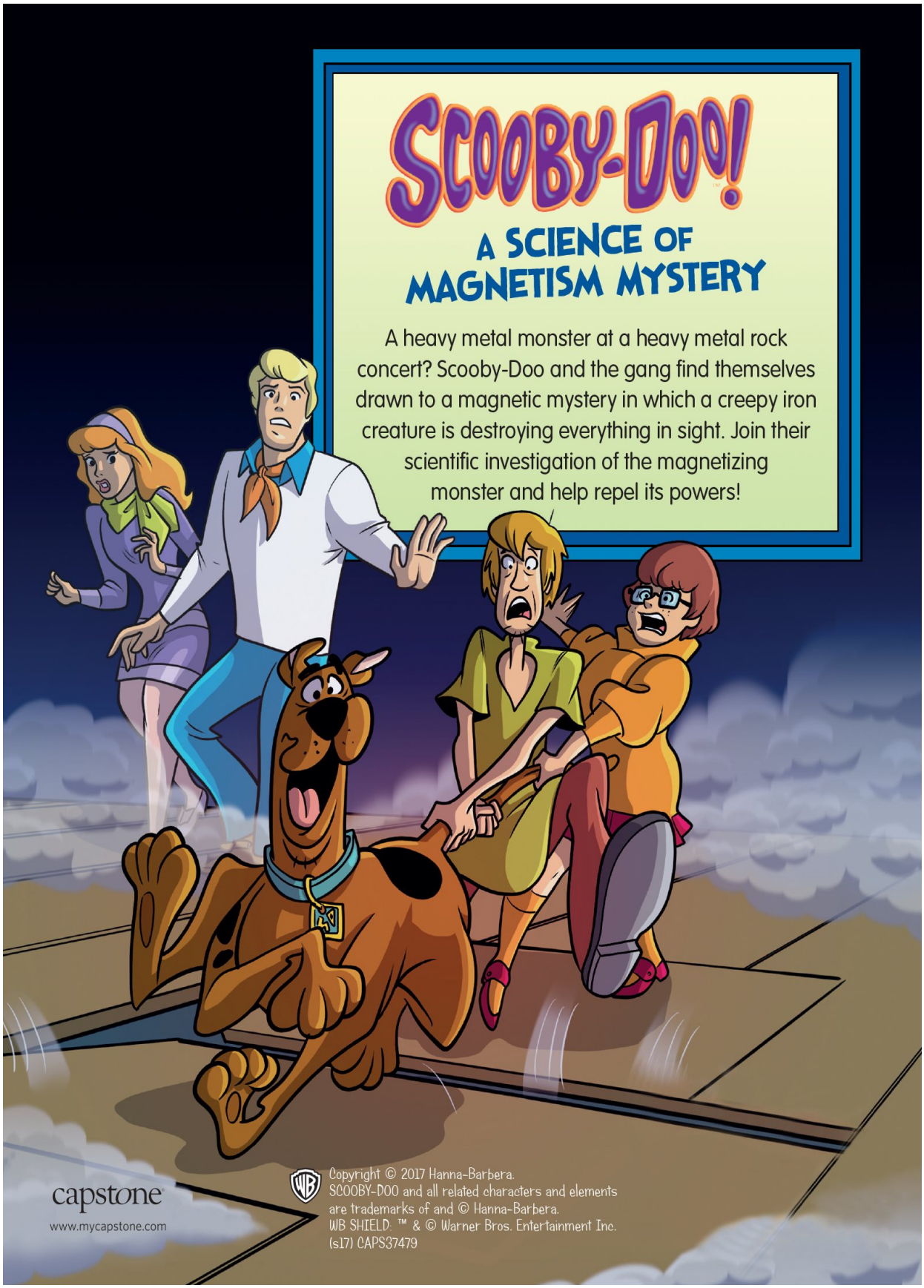
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